

J2EE: Web Component Development

Course length: 5 days

Course Description

Welcome to J2EE: Web Component Development. This course will help you to build upon your background knowledge in Java and gain the essential skills you need to develop Web components in an enterprise environment. Additionally, the course offers you a job-related approach to the Web application development process. Finally, it provides you with the basic expertise required to develop functionally sound and efficient Java 2 Enterprise Edition Web components.

Course Objective: You will prepare to develop J2EE Web applications. You will discover how to create the two primary Web components. Next, you will discover how to maintain client state and how you can use this information to track users through your application. You will use a JavaBean in your Web application and create and use a JSP custom tag library. Next, you will learn how to incorporate security and filters into your application. Finally, you will explore some J2EE design patterns and database integration into a Web application.

Target Student: Students should be skilled and experienced in using J2SE and be familiar with SQL. Students should have knowledge of database structure and terminology. Students should understand object-oriented programming.

Prerequisites: To ensure your success in this course, we recommend that you take the following courses or have equivalent experience: Java 2: Programming Language; SQL: Fundamentals of Querying; Object-Oriented Programming: Principles; Java 2: Object-Oriented Analysis and Design; Using UMLHTML 4.01: Web Authoring, Level 1 (Second Edition); and XML: An Introduction (Third Edition)

Delivery Method: Instructor led, group-paced, classroom-delivery learning model with structured hands-on activities.

Performance-Based Objectives

Upon successful completion of this course, students will be able to:

- Prepare to develop J2EE Web applications.
- Build a servlet.
- Build a JSP.
- Maintain client state.
- Use a JavaBean in a Web application.
- Create and use a custom tag library.
- Apply security and filters.
- Use design patterns in a Web application.
- Integrate a Web application with a database.

Course Content

Lesson 1: Preparing to Develop J2EE Web Applications

Topic 1A: Structure a Web Application

Topic 1B: Access the Database

Topic 1C: Configure the Web Application

Lesson 2: Building a Servlet

Topic 2A: Code a Servlet

Topic 2B: Send and Receive Information



Topic 2C: Access Input Streams to the Web Application
Topic 2D: Control Access to Shared Objects
Topic 2E: Include Other Resources
Topic 2F: Return HTTP Errors
Topic 2G: Handle a Servlet Exception
Topic 2H: Write to the WebApp Log
Topic 2I: Deploy a Servlet

Lesson 3: Building a JSP

Topic 3A: Code a JSP
Topic 3B: Write a Directive
Topic 3C: Write a Scriptlet
Topic 3D: Write a JSP Expression
Topic 3E: Write a Declaration
Topic 3F: Employ JSP Actions
Topic 3G: Deploy a JSP

Lesson 4: Maintaining Client State

Topic 4A: Manage a Session with the HttpSession Interface
Topic 4B: Use Hidden Fields
Topic 4C: Create a Cookie
Topic 4D: Use URL Rewrite
Topic 4E: Implement Servlet Event Listening

Lesson 5: Using a JavaBean in a Web Application

Topic 5A: Use a JavaBean
Topic 5B: Use a Get Method of a JavaBean
Topic 5C: Use a Set Method of a JavaBean

Lesson 6: Creating and Using a JSP Custom Tag Library

Topic 6A: Use the JSP Standard Tag Library
Topic 6B: Declare a SimpleTag Handler
Topic 6C: Create a Tag File
Topic 6D: Create a Tag Library Descriptor
Topic 6E: Use Custom Tags

Lesson 7: Applying Security and Filters

Topic 7A: Configure Authentication
Topic 7B: Configure Web Authorization
Topic 7C: Program Web Authorization
Topic 7D: Implement a Filter

Lesson 8: Using Design Patterns in a Web Application

Topic 8A: Design a J2EE Web Application with the MVC Pattern
Topic 8B: Design a J2EE Web Application with the Transfer Object Pattern
Topic 8C: Design a J2EE Web Application with the Data Access Object Pattern
Topic 8D: Design a J2EE Web Application with the Business Delegate Pattern

Lesson 9: Integrating a Web Application with a Database

Topic 9A: Configure the Web Application for JDBC Connectivity
Topic 9B: Obtain Connections to a Database
Topic 9C: Access a SQL Result Set in J2EE Web Components
Topic 9D: Create Connection Pooling



Appendix A: Sun Certified Web Component Developer for J2EE Platform, CX-310–080 Certification Exam Objectives

Appendix B: IBM 000-484 Certification Exam Objectives

